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30 **UNITED STATES DISTRICT COURT**
 31 **NORTHERN DISTRICT OF CALIFORNIA**

32 ANIBAL RODRIGUEZ, SAL
 33 CATALDO, JULIAN
 34 SANTIAGO, and SUSAN LYNN
 35 HARVEY, individually and on behalf of all
 36 others similarly situated,

37 Plaintiffs,
 38 vs.
 39 GOOGLE LLC,
 40 Defendant.

41 Case No.: 3:20-cv-04688-RS

42 **PLAINTIFFS' OPPOSITION TO**
 43 **GOOGLE'S MOTION TO EXCLUDE**
 44 **PLAINTIFFS' EXPERT PROFESSOR**
 45 **BRUCE SCHNEIER (DKT. 474)**

46 The Honorable Richard Seeborg
 47 Courtroom 3 – 17th Floor
 48 Date: May 15, 2025
 49 Time: 1:30 P.M.

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1 **I. INTRODUCTION**

2 Professor Schneier is one of the world’s leading privacy experts. He has written over a
 3 dozen books and hundreds of articles on privacy and security issues, for which he has earned
 4 countless awards; he regularly speaks at conferences and events; and he has taught cybersecurity
 5 policy courses at the Harvard Kennedy School for many years. At trial, Prof. Schneier will do what
 6 he does every day: He will provide lay people, sitting as jurors, with context and background
 7 regarding privacy, why it is important, and the risks and harms from Google’s representations and
 8 data collection. He will teach jurors about the realities of the internet and the conflict that
 9 sometimes exists between privacy and business interests. He will explain to the jury that he
 10 reviewed the many versions of Google’s disclosures during the class period and how they exhibit
 11 features known among experts to manipulate users.

12 Google seeks to exclude these opinions for four reasons, all of which fail.

13 **First**, Google seeks to broadly exclude opinions relating to principles of data privacy as
 14 “irrelevant” and “unfairly prejudicial.” Google fails to mention that Judge Gonzalez Rogers
 15 rejected these exact arguments against Prof. Schneier in *Brown v. Google*, 2022 WL 17961497, at
 16 *9–10 & n.6 (N.D. Cal. Dec. 12, 2022). Prof. Schneier’s testimony at trial is likely to focus on
 17 Google’s conduct and representations concerning (s)WAA. But as Judge Gonzalez Rogers held in
 18 *Brown*, he may also provide testimony regarding “background and context information” relevant
 19 to the jury’s inquiries into objectively reasonable privacy expectations and the offensiveness of
 20 Google’s conduct, among other things. *Id.* Prof. Schneier will testify, for example, that data is
 21 often leaked despite the best of intentions, that app activity data may reveal sensitive information
 22 that might be of interest to corporate interests or to governments with subpoena power, and that
 23 so-called “anonymization” techniques generally prove illusory. These opinions matter.

24 **Second**, Google claims that Prof. Schneier impermissibly opines on “Google’s intent.” But
 25 where? Prof. Schneier has no such opinions, as he confirmed at deposition. *See* Dkt. 474-3 at 71:1–
 26 3 (confirming he will not “opine in this case on the intent or state of mind or motivation of
 27 Google”). It is clear from the excerpts Google quotes in its brief that Prof. Schneier’s opinions
 28 concern Google’s business incentives, not its state of mind. *E.g.*, Mot. 14 (taking issue with an

1 opinion that Google “has strong incentives to overstate the effectiveness of the promised privacy
 2 control mechanisms”). That is a proper subject of expert testimony. *E.g., Ralston v. Morg. Invs. Grp., Inc.*, 2011 WL 6002640, at *2 (N.D. Cal. Nov. 30, 2011). Plaintiffs agree that neither party’s
 3 expert may opine on state of mind, intent, or motive. *See* Dkt. 473 at 9 (Plaintiffs’ *Daubert* motion).

5 **Third**, Google moves to exclude Prof. Schneier’s “consumer expectations opinions.” But
 6 Prof. Schneier does not opine on that topic either. *See* Dkt. 474-3 at 68:17–11 (answering “I am
 7 not” in response to Google asking whether he is “providing any opinion about consumer
 8 expectations relating to Web & App Activity?”). Prof. Schneier instead opines on *industry practice*
 9 with respect to privacy settings. For example, he describes how common practice is to *assume* that
 10 users will understand privacy settings to include their broadest possible meaning. Google also
 11 misunderstands Prof. Schneier’s analysis about general trends at the heart of his everyday work
 12 (e.g., that public concern about privacy has escalated) as “consumer expectations opinions.” These
 13 opinions bear no resemblance to those he was foreclosed from offering in *Brown*, which concerned
 14 “what reasonable users would think of Google’s disclosures.” 2022 WL 17961497, at *11.

15 **Fourth**, Google moves to exclude Prof. Schneier’s opinions about “dark patterns,” which
 16 are design features that subtly nudge users towards disclosing more data. Prof. Schneier opines that
 17 Google’s (s)WAA disclosures “exemplify” dark patterns, meaning the disclosures include features
 18 known in the literature to be manipulative. Google’s main argument is that any opinion on dark
 19 patterns is invariably based on “unsound” methodology. Yet Google neglects to mention a squarely
 20 on-point decision in another data privacy case, which flatly denied a similar motion Google had
 21 filed. *See* Ex. 1 (denying motion to exclude expert testimony on dark patterns). As that court
 22 reasoned, “the study and existence of dark patterns is well recognized in the literature,” and
 23 “Google’s own engineers use the concept of dark patterns as an analytical tool.” *Id.* at 3. Even
 24 Google’s expert in this case claimed to perform a dark patterns analysis. Dkt. 470-5 at 302:1–7.

25 Prof. Schneier’s opinions are not only relevant and reliable; they are also critically
 26 important. Google’s motion is a transparent effort—based on distortion of law and expert opinion
 27 alike—to silence an expert witness who can help the jury understand the issues in this case and
 28 reach a fair verdict based on the evidence. The Court should deny Google’s motion in full.

1 **II. BACKGROUND**

2 **A. Prof. Schneier is a leading authority on digital privacy.**

3 Bruce Schneier is a computer scientist and leader in the field of data privacy and security.
 4 Dkt. 474-2 at App. 2 (Schneier CV). He is a Lecturer in Public Policy at the Harvard Kennedy
 5 School of Government, where he teaches on cybersecurity technology, law, and policy. *Id.* He is
 6 a fellow at the Berkman Klein Center for Internet and Society at Harvard. He has testified about
 7 Internet security and privacy to the United States Senate, the United States House of
 8 Representatives, and the United Kingdom’s House of Lords. *Id.* Schneier is the New York Times
 9 best-selling author of fourteen books and of hundreds of articles on digital security, privacy,
 10 cryptography, and related topics, including many academic titles and over one hundred scholarly
 11 publications. *Id.* Hundreds of thousands of readers follow his influential “Crypto-Gram” newsletter
 12 and “Schneier on Security” blog. *Id.* He has been the recipient of numerous industry and academic
 13 awards and honors. *Id.* Schneier’s 2015 book *Data and Goliath: The Hidden Battles to Capture*
 14 *Your Data and Control Your World* concerns the origins, development, structure, incentives, and
 15 policy implications of the “surveillance capitalism” business model at the heart of this case.

16 **B. Prof. Schneier’s expert reports.**

17 Prof. Schneier brought his data privacy expertise to bear through the analysis and opinions
 18 described in two reports: an initial report and a supplement that only updated his opinions to cover
 19 the remainder of the class period. Dkt. 474-2 (“Schneier Rep.”); Dkt. 474-4 (“Schneier Supp.”).

20 A significant portion of Prof. Schneier’s reports cover important factual context and data
 21 privacy principles. Schneier Rep. ¶¶ 24–177; Schneier Supp. ¶¶ 4–8. Prof. Schneier explains what
 22 privacy means and why it matters. Schneier Rep. ¶¶ 24–44. He describes how the internet’s
 23 business model is largely based on surveillance, which has led to new privacy issues. *Id.* ¶¶ 45–
 24 69. He details how our actions online, including on mobile apps, generate unique, sensitive, and
 25 valuable data that companies and governments have strong incentives to collect and exploit. *Id.*
 26 ¶¶ 70–127; Schneier Supp. ¶¶ 4–7. Prof. Schneier opines that once collected, data is at risk of
 27 leakage, breach, misuse, de-anonymization, and government subpoena. Schneier Rep. ¶¶ 66–69,
 28 136–41, 148–59, 222–30; Schneier Supp. ¶¶ 21–26. He also describes ways that industry and

1 government bodies have attempted to limit those risks, including by limiting the data that is
 2 collected in the first place. Schneier Rep. ¶¶ 128–35. He also opines that the comparative opacity
 3 of digital surveillance makes it hard for people to make complex privacy decisions about what they
 4 do online. *Id.* ¶¶ 142–47, 160–77.

5 Prof. Schneier also offers background testimony about how Google fits into those industry
 6 trends. *Id.* ¶¶ 178–295; Schneier Supp. ¶¶ 9–28. Prof. Schneier explains that there is a fundamental
 7 conflict between Google’s business model, which is based on user data, and its purported desire to
 8 offer users privacy. Schneier Rep. ¶¶ 178–215. Prof. Schneier will explain that, on one hand,
 9 Google depends on a pro-privacy image. *Id.* ¶¶ 259–67. Google and its executives, including its
 10 CEO Sundar Pichai in sworn congressional testimony, have publicly and often touted users’
 11 purported “control” over what they share with Google. *Id.* ¶¶ 249–58. But as Prof. Schneier
 12 explains, Google’s business also depends on monetizing user data. *Id.* ¶¶ 178–215. Prof. Schneier
 13 also opines that the data Google collects is not somehow immune from risks inherent in the data
 14 collection industry. The data Google collects isn’t anonymous, and data in Google’s possession
 15 has been breached, exposed, or otherwise compromised by privacy or consent failures. *Id.* ¶¶ 216–
 16 48; Schneier Supp. ¶¶ 14–26.

17 Prof. Schneier then explains how some of those principles and dynamics apply to Google’s
 18 (s)WAA settings. Schneier Rep. ¶¶ 296–400. He explains how Google positions (s)WAA as a key
 19 tool that gives users the transparency and control Google promised. *Id.* ¶¶ 296–304. Prof. Schneier
 20 opines that general principles about the ineffectiveness of “anonymization” techniques also apply
 21 to (s)WAA-off app activity data that Google took from class members. *Id.* ¶¶ 305–310; *see also*
 22 *id.* ¶¶ 148–59, 216–21. Finally, Prof. Schneier opines that Google’s public representations about
 23 the (s)WAA settings bear the hallmarks of “dark patterns,” a technical term for user interfaces and
 24 messaging that nudge users toward particular actions. *Id.* ¶¶ 311–388; Schneier Supp. ¶¶ 29–34.

25 III. LEGAL STANDARD

26 Expert testimony is admissible if it is “both relevant and reliable.” *Bautista v. Mktg. &*
 27 *Supply Co.*, 2018 WL 7142094, at *1 (N.D. Cal. Dec. 4, 2018) (Seeborg, J.) (citing *Daubert v.*
 28 *Merrell Dow Pharms., Inc.*, 509 U.S. 579, 597 (1993)). “Relevancy is a low bar.” *In re Xyrem*

1 (*Sodium Oxybate*) Antitrust Litig.

2 , 2024 WL 4023562, at *16 (N.D. Cal. Aug. 26, 2024) (Seeborg,

3 C.J.). “Expert opinion testimony is relevant if the knowledge underlying it has a valid connection

4 to the pertinent inquiry. And it is reliable if the knowledge underlying it has a reliable basis in the

5 knowledge and experience of the relevant discipline.” *City of Pomona v. SQM N. Am. Corp.*, 750

6 F.3d 1036, 1044 (9th Cir. 2014).

7 Courts “enjoy[] broad discretion in determining both how to assess reliability and whether

8 particular testimony is reliable.” *Bautista*, 2018 WL 7142094, at *1 (citing *Kumho Tire Co. Ltd.*

9 v. *Carmichael*, 526 U.S. 137, 151-52 (1999)). This inquiry is a “flexible” one, which should be

10 tailored to the expert testimony offered. *Kumho Tire*, 526 U.S. at 141. Courts should screen

11 “unreliable nonsense opinions, but not exclude opinions merely because they are impeachable.”

12 *City of Pomona*, 750 F.3d at 1044. Even “[s]haky but admissible evidence is to be attacked by

13 cross examination, contrary evidence, and attention to the burden of proof, not exclusion.”

14 *Primiano v. Cook*, 598 F.3d 558, 564 (9th Cir. 2010).

14 **IV. ARGUMENT**

15 **A. Prof. Schneier’s data and privacy opinions are admissible.**

16 Prof. Schneier’s opinions and analysis about privacy in the digital age are the first target

17 of Google’s motion. Google argues that these opinions are too “generalized” to “fit” the facts of

18 this case and would prejudice the jury if admitted at trial. Mot. 6. Courts routinely rebuff motions

19 like this, including Google’s nearly identical effort to exclude Prof. Schneier’s opinions in *Brown*

20 v. *Google*. 2022 WL 17961497, at *9–10 (N.D. Cal. Dec. 12, 2022). Prof. Schneier’s teaching

21 testimony on data privacy principles will help the jury understand the implications of Google’s

22 conduct, a key issue in this case. His testimony is probative, not prejudicial.

23 **1. These opinions provide relevant context for the jury’s analysis.**

24 Prof. Schneier’s testimony is consistent with the “venerable practice of using expert

25 testimony to educate the factfinder on general principles.” Fed. R. Evid. 702 advisory committee’s

26 note; *see, e.g.*, *Scott v. Ross*, 140 F.3d 1275, 1286 (9th Cir. 1998) (district court did not abuse

27 discretion by allowing expert testimony on “the history and general practice of deprogramming

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1 and the origin and practices of the ‘anti-cult movement’’’).¹ The Federal Rules permit so-called
 2 teaching testimony provided the expert is qualified and his testimony “address[es] a subject matter
 3 on which the factfinder can be assisted by an expert,” is reliable, and ““fit[s] the facts of the case.”
 4 Fed. R. Evid. 702 advisory committee’s note. The “fit” requirement is not demanding. As this
 5 Court has recognized, “[r]elevancy is a low bar.” *In re Xyrem*, 2024 WL 4023562, at *16. Google
 6 does not, and cannot, argue that Prof. Schneier is unqualified to testify about online privacy, that
 7 his testimony is within “the everyday knowledge and experience of a lay juror,” or that his
 8 testimony is broadly unreliable. *Noyes v. Kelly Servs., Inc.*, 2008 WL 782846, at *2 (E.D. Cal.
 9 Mar. 21, 2008); Mot. 6–9. Google contests only the “fit” between his opinions and this case.

10 Judge Gonzalez Rogers rejected Google’s exact argument in *Brown*, a fact Google chooses
 11 not to mention. 2022 WL 17961497, at *9–10; *see* Mot. 6–9 (not mentioning *Brown*). In *Brown*,
 12 Prof. Schneier offered many of the same background opinions that Google challenges here:
 13 “background and context information about what privacy is, the importance of privacy, the
 14 different types of data, pervasive data collection and tracking of users as a function of the Internet,
 15 and the impact and negative consequences of the misuse of one’s data.” *Id.* at *10. Google moved
 16 to exclude those opinions on the same grounds, arguing that they “do not ‘fit’ the allegations in
 17 the case.” *Id.* at *9. Judge Gonzalez Rogers disagreed. She held that Prof. Schneier’s opinions
 18 “provide context for how a reasonable user would have reasonably expected privacy over their
 19 browsing information, and to understand the considerations relating to why Google’s collection
 20 and use of private browsing information is highly offensive.” *Id.* at *10. Google’s failure to address
 21 Judge Gonzalez’s order on this issue speaks volumes.

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24 ¹ *See also, e.g., Miller v. Holzmann*, 563 F. Supp. 2d 54, 94 (D.D.C. 2008) (“The Court concludes
 25 McAfee’s testimony as a ‘teaching witness’ educated the jury about theoretical characteristics of
 26 collusive behavior in an auction setting”), *aff’d in relevant part sub nom. U.S. ex rel. Miller*
v. Bill Harbert Int’l Constr., 608 F.3d 871 (D.C. Cir. 2010); *In re Bard IVC Filters Prod. Liab.*
Litig., 2017 WL 6523833, at *4 (D. Ariz. Dec. 21, 2017) (“Instruction on relevant matters beyond
 27 the understanding of a typical juror is an appropriate function of the witness.”); *U.S. v. Jackson*,
 2016 WL 6998557, at *4 (C.D. Cal. Nov. 28, 2016) (“Tuller testified as a teaching witness in
 28 support of defendant’s diminished capacity defense.”), *aff’d*, 757 F. App’x 547 (9th Cir. 2018).

1 Time and again, federal courts have held that experts in privacy cases may testify about
 2 what privacy is, why it is important, and the consequences of data collection. *See, e.g., In re Google*
 3 *RTB Consumer Privacy Litig.*, 2024 WL 2242690, at *4 (N.D. Cal. Apr. 4, 2024) (denying
 4 Google’s motion to exclude expert testimony on the “history of privacy norms” and opinion that
 5 “privacy—including freedom from unwanted surveillance—is a fundamental right and important
 6 societal norm”); *Brooks v. Thomson Reuters Corp.*, 2023 WL 5667884, at *7, 11 (N.D. Cal. Aug.
 7 9, 2023) (denying motion to exclude expert opinion regarding the “history of privacy rights” and
 8 how the defendant’s conduct “affect[ed] privacy interests” in the “ethical or social” sense);
 9 *Planned Parenthood Fed. of Am., Inc. v. Ctr. for Med. Progress*, 402 F. Supp. 3d 615, 718–21
 10 (N.D. Cal. 2019) (denying motion to exclude expert testimony on “the background and history of
 11 anti-abortion activists targeting abortion providers” in case about surreptitious recording of
 12 Planned Parenthood conference). Google eschews those authorities in favor of cases that are either
 13 irrelevant or contrary to its position here.²

14 Google’s repeated efforts, across multiple cases, to exclude this type of expert opinion
 15 reflect a wishful and impoverished understanding of the role of the issues in dispute. One reason
 16 that Google’s motion and those like it are doomed to fail is that countless factors may influence
 17 the jury’s decision in cases like this. The question of whether class members have an objectively
 18 reasonable and legally protected expectation of privacy, and whether they can be said to have given
 19 consent, is determined in part by reference to “social norms” and “customs [and] practices”
 20 relevant to the intruding activities. *Hernandez v. Hillsides*, 211 P.3d 1063, 1073 (Cal. 2009). The
 21 question of whether Google’s conduct is “highly offensive … essentially involves a ‘policy’
 22 determination” affected by similar factors. *Id.* at 1073; *see also In re Facebook, Inc. Internet*
 23 *Tracking Litig.*, 956 F.3d 589, 606 (9th Cir. 2020) (“[T]he highly offensive analysis focuses on the

24
 25 ² *Palantir Techs. Inc. v. Abramowitz*, 2022 WL 22913842, at *4–5 (N.D. Cal. Nov. 3, 2022)
 26 (excluding expert in a *trade secret* case who did *not* teach relevant general principles; expert
 27 instead planned to testify about the defendant’s role in creating the specific data actually
 28 underlying the alleged trade secrets, which the district court concluded was “marginally relevant”);
Bowoto v. Chevron Corp., 2006 WL 2604592, at *3–4 (N.D. Cal. Aug. 23, 2006) (permitting
 background testimony from two experts, excluding only one’s opinions about the defendant’s state
 of mind and a couple background issues that were “only tenuously related to this lawsuit”).

1 degree to which the intrusion is unacceptable as a matter of public policy.”). Prof. Schneier’s
 2 testimony falls well within those boundaries.

3 Take, for example, Prof. Schneier’s testimony about major data leaks. Schneier Rep. ¶¶ 66–
 4 69, 137–38, 222–30; Schneier Supp. ¶¶ 21–25. These incidents “provide important context for
 5 understanding Google’s representations and expectations of users who turned off their WAA and
 6 sWAA settings.” Schneier Rep. ¶ 68. Past major data breaches also bear directly on the jury’s
 7 “policy determination” about the offensiveness of collecting app activity data that could be leaked
 8 in the future. *Hernandez*, 211 P.3d at 1073. As Prof. Schneier summarized, the drumbeat of
 9 incidents demonstrates that “[e]ven the best systems have a failure rate.” Schneier Rep. ¶ 229.
 10 Many of Schneier’s examples involve Google itself. It is therefore especially “important for data
 11 processors such as Google to collect data parsimoniously, to provide users with accurate
 12 disclosures, and to provide easily understood privacy controls.” *Id.*

13 Google seeks to exclude additional testimony demonstrating that the only way to truly
 14 protect privacy is to not collect information in the first place. Schneier Rep. ¶¶ 136–41. This
 15 principle strikes at the core of Google’s strategy to cast its conduct as insignificant. Schneier’s
 16 report includes opinions about how data can be produced in response to government subpoenas
 17 and the frequency with which subpoenas are directed at Google. Schneier Rep. ¶ 140; Schneier
 18 Supp. ¶ 14. The reports also include his opinion regarding the illusory nature of “anonymization”
 19 techniques, which feature prominently in Google’s defense. Schneier Rep. ¶¶ 148–59. There is no
 20 merit to Google’s assertion that Prof. Schneier may not testify on these topics unless he specifically
 21 proves that “data at issue in this case has … been the focus of a subpoena” or limits his illustrations
 22 of de-anonymization to Google’s data sets. Mot. 8 (notably arguing that Schneier’s principles are
 23 only “primarily,” not *entirely*, illustrated by studies of “non-Google data sets”). It is important for
 24 the jury to understand the general principles that “[i]t is not difficult to correlate anonymized data
 25 with identified data” and that the government can and does obtain data by way of subpoenas.
 26 Schneier Rep. ¶¶ 104, 157.

27 Google also tries to muzzle Prof. Schneier, preventing him from discussing in plain terms
 28 why it is so important not to collect data about people’s activities online, including in mobile apps.

1 As Prof. Schneier explains, this data may reflect political and religious beliefs, sexual orientation,
 2 experience of domestic abuse, and abortion history. Schneier Rep. ¶ 89; *id.* at ¶¶ 89–99, 103–10.
 3 Spying on people’s activities is harmful enough. That Google’s collection of data also gives others
 4 the opportunity to obtain that information makes it even more so. Prof. Schneier discusses
 5 invigorated government and public interest in private matters like abortions and political beliefs
 6 because it bears on the offensiveness of Google saving sensitive app activity data when it assured
 7 class members it wouldn’t. *Id.* at ¶¶ 103–10; Schneier Supp. ¶¶ 6–8. And artificial intelligence is
 8 relevant because a former Google employee testified that Google’s AI systems are trained on
 9 (s)WAA-off data and may expose what they learn. *See* Dkt. 415-1.

10 Other opinions that Google would resign to the chopping block are relevant to issues like
 11 consent. Schneier Rep. ¶¶ 142–47, 160–77. Google argues that scattered elements of a
 12 constellation of disclosures sufficed to inform class members that Google would collect their app
 13 activity data, and that their continued use of mobile apps in the face of those disclosures amounts
 14 to consent. *See, e.g.*, Dkt. 383 at 11–14, 18–19. Prof. Schneier’s testimony adds important context.
 15 He opines that industry practice is to afford privacy representations and controls their broadest
 16 reasonable interpretation. Schneier Rep. ¶ 28. That is appropriate not least because, Prof. Schneier
 17 explains, people develop intuitions about privacy in the context of traditional, personal
 18 communications. *Id.* ¶¶ 142–43. In the internet context, the scale of surveillance is far greater,
 19 more complex, and more obscure. *Id.* ¶¶ 143–46. The traditional methods people use to evaluate
 20 and make privacy choices are not well suited for that environment. *Id.* Prof. Schneier’s testimony
 21 will enable the jury to consider the full context when evaluating whether class members had a
 22 reasonable expectation of privacy or gave consent. *Id.* ¶ 147.

23 Prof. Schneier’s testimony about the value of user data is equally relevant. *See id.* ¶¶ 111–
 24 27. Prof. Schneier’s opinion that “user data generates billions in corporate revenue” explains the
 25 incentives to maximize user data collection. *Id.* It contextualizes Google’s internal resistance to
 26 addressing known inconsistencies between its data collection practices and representations. *Id.*
 27 ¶¶ 111–22. Prof. Schneier also educates the jury about the general practice at issue in this case:
 28

1 “third-party tracking,” whereby Google or another entity collects data about the user’s
 2 communications with *different* entities (here, non-Google apps). *Id.* ¶¶ 123–27.

3 As for Prof. Schneier’s testimony about legal and industry privacy frameworks, it is
 4 established that juries may look to privacy-related authorities for guidance even if they are non-
 5 binding. *Hernandez*, 211 P.3d at 1073 (privacy claims look to ““established social norms’ derived
 6 from such sources as the ‘common law’ and ‘statutory enactment,’” as well as related “customs
 7 [and] practices”); *Trujillo v. City of Ontario*, 428 F. Supp. 2d 1094, 1106 (C.D. Cal. 2016) (video-
 8 surveillance laws enacted after the relevant conduct occurred were relevant to objective
 9 reasonableness of privacy expectation). For example, these frameworks’ preoccupation with
 10 limiting the *collection* of data may lead the jury to rightfully reject Google’s argument that it is
 11 exculpated by purported safeguards for data *use*. Schneier Rep. ¶¶ 131–35. And it is hardly
 12 necessary to rebut Google’s argument that the frameworks Prof. Schneier identifies are irrelevant.
 13 Mot. 8. These authorities include laws binding Google’s conduct in Europe (the GDPR), a privacy
 14 framework established by the OECD, of which the United States is a member; and the ethical code
 15 created by ACM, the preeminent association for the computing industry. *Id.* ¶¶ 128–33

16 Google’s motion also takes aim at a broad set of opinions without meaningfully addressing
 17 them or explaining why Google thinks they are irrelevant. Google first attempts to obscure Prof.
 18 Schneier’s opinions by mischaracterizing an entire *category* of opinions as just one opinion. *See*,
 19 *e.g.*, Mot. 7 (claiming that Prof. Schneier has *an* opinion called “Data Privacy”); Schneier Rep.
 20 §§ 2.1–2.3 (describing three opinions in this category). Google then zeroes in on a few snippets of
 21 Prof. Schneier’s report—without acknowledging that those snippets are offered as *support for* and
 22 *illustrations of* the principles he teaches. *See, e.g.*, Mot. 7 (arguing that Prof. Schneier’s opinion
 23 about Edward Snowden is irrelevant); Schneier Rep. ¶¶ 42–44 (offering the distinct opinion that
 24 “[t]hreats to privacy are bad for business,” *illustrated in part* by the negative impact Snowden’s

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1 revelations had on U.S.-based cloud businesses).³ The Court should not reward Google’s efforts
 2 to distort Prof. Schneier’s opinions and wrest his analysis from its context.

3 At trial, Prof. Schneier will teach unfamiliar concepts and principles that the jury can apply
 4 to the claims and the evidence. Such teaching testimony has a long tradition. It has been blessed
 5 in cases about a wide range of subject matters, including similar privacy cases like *Brown*, *Google*
 6 *RTB*, *Brooks*, and *Planned Parenthood*. Google’s assertion that opinions *about important data and*
 7 *privacy principles* are irrelevant to this *data privacy case* is, in a word, insubstantial. And if Prof.
 8 Schneier’s testimony at trial strays too far, the Court can impose appropriate limits.

9 **2. Prof. Schneier’s opinions are not unfairly prejudicial.**

10 Prof. Schneier’s teaching opinions are not unfairly prejudicial at all, much less
 11 “substantially” more prejudicial than probative than under Rule 403. As we have explained, Prof.
 12 Schneier’s teaching opinions about the history and hazards of mass data collection may properly
 13 inform the jury’s answer to relevant questions such as, *Did class members have a reasonable*
 14 *expectation of privacy? Was Google’s intrusion highly offensive?* That Prof. Schneier’s opinions
 15 suggest that the hazards are high, or that he relies on sobering, real-world examples to support his
 16 conclusions, does not render his testimony inadmissible.

17 Evidence may be excluded under Rule 403 only if it causes substantial “*unfair* prejudice,”
 18 meaning prejudice “based on something *other* than its persuasive weight.” *United States v. Cruz-*
Garcia, 344 F.3d 951, 956 (9th Cir. 2003). It does not otherwise limit the ability to “introduce
 19 evidence that will do damage to the other side’s case; that’s the very point of a trial.” *Id.*; *see also*
United States v. Hankey, 203 F.3d 1160, 1172 (9th Cir. 2000) (“Relevant evidence is inherently
 20 prejudicial, but it is only unfair prejudice, substantially outweighing probative value, which
 21 permits exclusion”). The Ninth Circuit has cautioned that “[t]he application of Rule 403 must
 22 be cautious and sparing.” *Id.* at 1172.

23 Google’s motion for exclusion under Rule 403 “strains credulity,” as Judge Gonzalez
 24 Rogers recognized when rejecting this very argument against Prof. Schneier’s opinions in *Brown*.

25
 26
 27 ³ The impact of privacy invasions on the business climate is relevant to offensiveness and Google’s
 28 alleged justification defense, which turns in part on whether the invasion served the public interest.
 Dkt. 305 (Google’s Answer) at 38 (alleging its actions are “justified”); *see* CACI 1806.

1 2022 WL 17961497, at *10 n.6. The possibility that data could be shared, leaked, and de-
 2 anonymized is relevant to the outrageousness of Google’s decision to collect and save sensitive
 3 (s)WAA-off data. Prof. Schneier explains that purportedly safe data *has repeatedly* been breached,
 4 de-anonymized, and used by government and corporate actors. Schneier Rep. ¶¶ 36, 38, 41–42,
 5 66–69, 137–38 148–59, 222–30. It would be difficult or impossible for Prof. Schneier to opine
 6 about the risk of bad things happening to that data without talking about some of the bad things
 7 that can happen—and have. *See U.S. ex rel. Miller v. Bill Harbert Int’l Constr., Inc.*, 608 F.3d 871,
 8 896 (D.C. Cir. 2010) (“[I]t is difficult to conceive of expert testimony relevant to the issues of this
 9 case in which the witness would not employ terms like ‘cartel members’ and ‘colluders.’”).

10 Google’s argument is premised on the naïve notion that bad things can’t happen here. But
 11 Google can make that argument to the jury; it is not a basis for exclusion. The Ninth Circuit held
 12 that a teaching expert’s “availab[ility] for cross-examination[] defeat[s] in large part any concerns
 13 of prejudice” arising from background testimony. *Scott*, 140 F.3d at 1286. To the extent Prof.
 14 Schneier’s testimony really does not pertain to the facts of this case, it would cause little if any
 15 prejudice. *Bowoto*, 2006 WL 2604592, at *3 (expert opinions “not based on the facts of this case”
 16 are “unlikely to prejudice defendants”). The lone case Google cites has nothing to do with the
 17 arguments it makes here. *See Volk v. United States*, 57 F. Supp. 2d 888, 896 (N.D. Cal. 1999)
 18 (addressing concerns that expert testimony was based on methods “so foreign to the layperson as
 19 to cast doubt on the jury’s ability to properly assess its probative value”).

20 **B. Prof. Schneier does not opine on Google’s intent and motivations.**

21 Prof. Schneier does not offer opinions about “Google’s intent and motivations.” *See* Mot.
 22 10, 14. To the contrary, he expressly disclaimed such opinions at deposition.

23 **Q. Do you purport to opine in this case on the intent or state of mind
 24 or motivation of Google?**

25 **A. I don’t believe so, no.**

26 Dkt. 474-3 at 71:1–3.

27 The paragraphs that Google wants to strike are opinions about Google’s economic
 28 *incentives*, not its intent. These are different concepts: incentives are external to a person or

1 organization, while intent is internal. Prof. Schneier will testify about Google’s incentives to
 2 collect user data to support its advertising business and the tension between those incentives and
 3 the demand for software that protects privacy. Even the string cite from page 14 of Google’s
 4 motion makes clear that Prof. Schneir is focused on “incentives,” not “intent.” Prof. Schneier
 5 opines that “the largest online companies are highly *incentivized* to capitalize on their users’ data
 6 to generate billions in revenue.” Schneier Rep. ¶ 111. He explains how “Google’s business model
 7 demands the maximization of data collection, and creates a strong *incentive* to overpromise and
 8 underdeliver on privacy.” *Id.* ¶ 178; *see also id.* ¶ 262 (“Google has strong business *incentives* to
 9 promote itself as a trustworthy guardian of privacy in order to sustain the user base that attracts
 10 advertisers to its platforms.”).

11 Expert “opinions about [] incentives are proper.” *In re Xyrem*, 2024 WL 4023562, at *4.
 12 While experts “may not ascribe a particular motivation to [the defendant],” they may opine on
 13 “normal market incentives” and whether “a particular action” is consistent with those incentives.
 14 *Sitts v. Dairy Farmers of Am., Inc.*, 2020 WL 3467993, at *7 (D. Vt. June 24, 2020). This
 15 distinction is illustrated through a case that Google cites. *See Oracle Am., Inc. v. Hewlett Packard
 Enter. Co.*, 2018 WL 6511146, at *3 (N.D. Cal. Dec. 11, 2018) (experts are “permitted to testify
 16 about the considerations on which persons in the field generally rely”). As another example, a
 17 court in this District permitted expert testimony about “incentives affecting mortgage brokers,”
 18 including the “personal and economic incentive for brokers to provide adequate and accurate
 19 information to their []clients.” *Ralston*, 2011 WL 6002640, at *2, 4. Prof. Schneier’s testimony
 20 will similarly address the relationship between an actor’s “economic incentive[s]” and whether it
 21 “provide[s] adequate and accurate information” to users. *Id.* His “incentives” opinions are
 22 essentially “testimony discussing ordinary practices and usages in a particular industry,” which are
 23 “proper” subjects of expert testimony. *In re Payment Card Interchange Fee & Merch. Disc.
 Antitrust Litig.*, 2022 WL 15044626, at *16 (E.D.N.Y. Oct. 26, 2022); *see also SEC v. Ripple Labs,
 Inc.*, 2023 WL 5670711, at *9 (S.D.N.Y. Mar. 6, 2023) (permitting expert testimony about
 24 “defendants’ sales practices and incentives”); *Allen v. Dairy Mktg. Servs.*, 2013 WL 6909953, at
 25 *11 (D. Vt. Dec. 31, 2013) (“the economic incentives of various participants” are “within the
 26

1 proper scope of an expert’s testimony”). Google’s motion does not even mention this well-settled
 2 case law, let alone grapple with any of these cases.

3 Prof. Schneier’s opinions about Google’s incentives are also relevant, for at least three
 4 reasons. *First*, the opinions are relevant to Plaintiffs’ allegations “that their data has economic
 5 value.” *See* Schneier Rep. ¶ 111 (technology companies like Google “are highly incentivized to
 6 capitalize on their users’ data to generate billions in revenue”); Dkt. 445 (“MSJ Order”) at 18
 7 (holding that Plaintiffs can satisfy the “damage or loss” element under the CDAFA in part because
 8 “their data has economic value,” and “Google profited from … misappropriat[ing]” it). *Second*,
 9 these opinions are relevant to the “highly offensive” element of the privacy tort claims, including
 10 because they support Plaintiffs’ argument that Google acted intentionally. *See* MSJ Order at 12
 11 (holding that Plaintiffs could prove offensiveness in part because of evidence suggesting that
 12 Google made “a conscious decision to keep the WAA disclosures vague”). *Third*, Prof. Schneier’s
 13 opinions are relevant to whether users consented. As Prof. Schneier explains, “Google’s business
 14 model …creates a strong incentive to overpromise and underdeliver on privacy.” Schneier Rep.
 15 ¶ 178. With knowledge of these incentives, the jury would be better positioned to evaluate whether
 16 and why Google overpromised and underdelivered on the (s)WAA setting.

17 Google’s reliance on Judge Gonzalez Rogers’s decision in *Brown* is misplaced. In *Brown*,
 18 the court struck limited portions of Professor Schneier’s reports (confined to three paragraphs),
 19 and portions of those paragraphs expressly addressed “Google’s *intent*” and what “Google is
 20 *motivated* to ensure.” 2022 WL 17961497, at *12 (emphasis added) Google’s reliance on *Snyder*
 21 *v. Bank of America* is misplaced for the same reason; that expert also expressly opined on the
 22 defendant’s “intent.” 2020 WL 6462400, at *2 (N.D. Cal. Nov. 3, 2020). Finding no similar
 23 wording in Prof. Schneier’s reports in this case, Google cobbles together out-of-context snippets
 24 to make it appear as if he opined on intent. At best, these cherry-picked citations would support
 25 striking limited phrases or sentences from his reports, which is what Judge Gonzalez Rogers did
 26 in *Brown*. Google provides no support for its request to strike entire sections of the reports. *See*,
 27 *e.g.*, Mot. 14–15 (seeking to exclude the entirety of §§ 7.1–4, 9.1–2).

28

1 In any event, no exclusion is warranted because all of the statements Google identifies are
 2 permissible. The statement about what “Google employees understand” summarized deposition
 3 testimony from employees, including one engineer’s frank admission that [REDACTED]
 4 [REDACTED]
 5 [REDACTED] Schneier Rep. ¶¶ 265–267. The statement about “Google’s commitment” to “tracker-
 6 driven and targeted advertising” addressed a news article describing how Google abandoned its
 7 promise to stop using particular trackers. Schneier Supp. ¶ 20. The statement that Google appears
 8 “more concerned with managing users’ impressions than with respecting their privacy intentions”
 9 was part of a discussion about the concept of “privacy theater,” i.e., “actions by governments and
 10 corporations that seem to protect privacy, but in fact do no such thing.” Schneier Rep. ¶¶ 399–400.
 11 And the statement that “Google’s privacy efforts are primarily directed at building user trust”
 12 concerned a nonpublic Google email, which described Google’s efforts to “giv[e] users a sense of
 13 the system as working to their benefit” “without actually improving any of the underlying
 14 conditions”—an important piece of evidence supporting Schneier’s opinion that the perception of
 15 control over privacy is important to Google’s brand and business. Schneier Rep. ¶ 263; *see also*
 16 Ex. 2. As Judge Gonzalez Rogers held in *Brown*, Prof. Schneier may “synthesiz[e] information
 17 from a variety of different sources, including both Google’s internal documents and public
 18 documents,” to support his opinions about “trends seen within Google and the risks associated
 19 with such trends.” *Brown*, 2022 WL 17961497, at *12. That is what Prof. Schneier does here.

20 Finally, in a footnote, Google argues that Sections 7.2 and 7.3 of Schneier’s report should
 21 be excluded for the “separate reason” that they address the “market share” Google maintains for
 22 its app tracking technologies—an issue Google dismisses as “irrelevant.” Mot. 14 n.2. Google
 23 waived this argument by confining it to a footnote. *See Estate of Saunders v. Comm’r*, 745 F.3d
 24 953, 962 n.8 (9th Cir. 2014) (“Arguments raised only in footnotes … are generally deemed
 25 waived.”). In any event, these opinions bear on at least two significant issues: (1) permission or
 26 consent; and (2) the offensiveness of Google’s conduct. *See In re Facebook Internet Tracking*,
 27 956 F.3d at 606. Prof. Schneier’s statements regarding Google’s market share reflect the ubiquity
 28

1 of Google's products and services—and their inherent trackers.⁴ The impossibility of escaping
 2 Google's surveillance may lead the jury to conclude that class members did not willingly submit,
 3 and therefore could not consent, to Google's data collection. The jury may similarly find that the
 4 relevant software development kits' role in Google's dragnet make them highly offensive.

5 **C. Prof. Schneier does not opine on consumer expectations.**

6 Google's next objection is another strawman. Prof. Schneier will not testify about what
 7 class members "expect and think." Mot. 18–20. Yet again, Prof. Schneier has already disclaimed
 8 the very opinion that Google claims to challenge:

9 **Q.** Are you providing any opinion about consumer expectations
 10 relating to Web & App Activity?

11 **A.** I am not.

12 **Q.** Same question for Supplemental Web & App Activity. Are you
 13 purporting to opine in this case on how the Plaintiffs understood
 Google's disclosures regarding Supplemental Web & App Activity?

14 **A.** I am not.

15 *See* Dkt. 474-3 at 68:17–69:2.

16 Google's reliance on *Brown* is again misplaced. In *Brown*, Prof. Schneier offered opinions
 17 about "how a reasonable consumer would understand" Google's privacy disclosures, which the
 18 court excluded. 2022 WL 17961497, at *12. Here, Prof. Schneier offers no such opinion. He
 19 instead explains how experts in the field approach disclosures. He describes how a "common
 20 practice" in the industry is to "assume" that "when labeling products as 'privacy settings' or
 'privacy controls'" that "user expectations will include the broadest scope of such words."
 21 Schneier Rep. ¶ 28. Relatedly, Prof. Schneier describes why practitioners should not expect "users
 22 without a technical education" to recognize that a "turn off location history" button "only affects
 23 a subset of applications." *Id.* ¶ 236. These are industry-focused opinions.

24 As with its intent argument, Google cobbles together snippets of the report to make it seem
 25 as if Prof. Schneier is opining on topics he was foreclosed from addressing in *Brown*. These cherry-

26
 27 ⁴ Prof. Schneier describes how "93% of Android apps using analytics SDKs" have "integrated" Google Analytics for Firebase. Schneier Rep. ¶ 202.
 28

1 picked statements come nowhere close to proving that Schneier “repeatedly” opines “on the
 2 understandings and expectations of consumers.” Mot. 19. To be clear: Prof. Schneier will not offer
 3 opinions about how class members understand or expect the (s)WAA settings to function.

4 The statements about which Google complains are analogous to portions of Prof.
 5 Schneier’s *Brown* reports that the court *declined* to strike. As we have explained, experts can
 6 provide background and context about issues in digital privacy. *Supra* § IV.A.1; *Brown*, 2022 WL
 7 17961497, at *10 (denying motion to exclude such testimony). That is the purpose of Prof.
 8 Schneier’s opinions about, for example, the tension between privacy, on the one hand, and the
 9 development of “continuously, automatic[] track[ing]” by way of “unseen technologies,” on the
 10 other hand. Schneier Rep. ¶ 247. The same is true of his opinion that “information about a person’s
 11 activity while using mobile apps can be highly personal.” *Id.* ¶ 89. This provides relevant
 12 background for why users might “signal[] an expectation that their app activity data and the
 13 associated content not to be collected and saved by Google.” *Id.* Prof. Schneier’s other opinions—
 14 such as his opinions that “people’s privacy intuition is not suited for the internet” and that “people
 15 rightfully seek to use the Internet without being tracked”—speak to broad social trends at the core
 16 of his professional work. *Id.* ¶¶ 68–69, 83, 142. The opinions that were excluded in *Brown* were
 17 far different: they concerned how reasonable users would interpret the specific disclosures that
 18 were at issue. *Brown*, 2022 WL 17961497, at *12. Google’s motion misconstrues the *Brown* order,
 19 Prof. Schneier’s opinions, and his expertise.

20 **D. Prof. Schneier’s dark patterns opinions are admissible.**

21 “Dark patterns” refer to “subversive user-design tricks intended to manipulate users into
 22 doing things they wouldn’t normally choose to do.” Schneier Rep. ¶ 161. Here, Prof. Schneier
 23 opines that Google’s (s)WAA disclosures exemplify dark patterns. Schneier Rep. § 11.

24 For example, the dark pattern called “sneaking” has been defined in the literature as
 25 “attempt[ing] to hide, disguise, or delay the divulging of information that has relevance to the
 26 user.” *Id.* ¶ 311. Prof. Schneier analyzed the WAA Help Page and concluded it “exemplifies”
 27 sneaking because Google nowhere informs users that when (s)WAA is “off,” Google will save app
 28 activity data outside of the “Google Account”:

1 Google tells users that if they turn WAA/sWAA on, Google will
 2 save their web and app activity data, including activity on third-
 3 party sites, to their account. Google tells users that if they turn
 4 WAA/sWAA off, Google will not save data to their account. Google
 never explicitly tells users the critical fact that even if they turn
 WAA/sWAA off, Google will save data about their online activity
 outside of their account.

5 *Id.* ¶ 320.

6 The gist of Google’s argument is that dark patterns are too dubious to *ever* to be the subject
 7 of expert testimony. Mot. 17 (“Dark patterns analysis is not—and cannot be, since it cannot be
 8 reliably measured—subject to any standards and controls.”). Yet Google cites no case excluding
 9 testimony about dark patterns. Even more telling, Google *ignores* a squarely analogous decision
 10 where an expert was allowed to testify about dark patterns—in a data privacy case against Google,
 11 where Google was represented by the same lawyers. *See* Ex. 1, *State of Az. v. Google LLC*, CV
 12 2020-006219 (Sup. Ct. Az. Maricopa Cty. Sept. 8, 2022) (hereinafter “*Arizona Order*”).

13 The *Arizona Order* is directly on point. The State of Arizona proffered expert testimony on
 14 dark patterns from Colin Gray, one of the scholars upon whom Prof. Schneier relies. Google moved
 15 to exclude Dr. Gray’s testimony and exclude any “references to ‘dark patterns,’” relying on the
 16 same arguments Google recycles here. *Id.* at 1. The court denied Google’s motion in its entirety,
 17 reasoning that “[t]he concept of dark patterns has acceptance in the community” and that “Gray’s
 18 opinions are relevant and could assist the jury.” *Id.* at 5. The court specifically credited “the
 19 extensive scholarship on dark patterns,” noting that dark patterns are “well recognized in the
 20 literature.” *Id.* at 3. The court also explained why the opinions were “directly relevant,” describing
 21 how “Google creates the false impression that users can control whether Google tracks their
 22 location when, in fact, it turns out there is nothing users can do to prevent Google from tracking
 23 them.” *Id.* at 4. Dark patterns are equally relevant here, where Google “create[d] the false
 24 impression that users can control whether Google tracks their [app activity data] when, in fact, it
 25 turns out there is nothing users can do to prevent Google from tracking them.” *Id.*

26 Dark patterns are relevant to at least the permission element of the CDAFA claim, as well
 27 as the reasonable expectation of privacy element of the privacy tort claims along with the issue of
 28 consent for the tort claims. If Prof. Schneier is correct that the (s)WAA disclosures exemplify dark

1 patterns, that would undermine Google’s argument that it obtained permission or consent through
 2 what Google has characterized as “clear and unambiguous” disclosures. Dkt. 381 (Google’s MSJ)
 3 at 20–21. That would undermine Google’s argument that users should have expected Google to
 4 collect their data regardless of their (s)WAA status. *Id.*

5 Google raises three specific arguments in support of exclusion, all of which fail. *First*, Prof.
 6 Schneier is qualified to opine on dark patterns. *Second*, Prof. Schneier is not using dark patterns to
 7 express an opinion about Google’s intent. *Third*, Prof. Schneier’s opinions are reliable. Finally, as
 8 yet another example of over-reaching, Google’s motion smuggles into its requested relief relating
 9 to “dark patterns” a separate portion of Prof. Schneier’s report that does not even *mention* “dark
 10 patterns.” *See* Rep. ¶¶ 389–98, § 11.7; Mot. 13 (seeking to exclude ¶¶ 311–400). Google offers no
 11 basis to exclude paragraphs 389–98, and the Court should reject that request too.⁵

12 **1. Prof. Schneier is qualified to opine on dark patterns.**

13 Google half-heartedly argues that Prof. Schneier is not qualified to opine on dark patterns.
 14 Mot. 18. This argument does not deserve even the one paragraph Google allots to it. “The threshold
 15 for qualification is low: a minimal foundation of knowledge, skill, and experience suffices.” *PixArt*
 16 *Imaging, Inc. v. Avago*, 2011 WL 5417090, at *3 (N.D. Cal. Oct. 27, 2011) (citing *Hangarter v.*
 17 *Provident Life Ins. Co.*, 373 F.3d 998, 1015–16 (9th Cir. 2004)). There is no “academic
 18 background” requirement. Mot. 18. An expert can be qualified “by knowledge, skill, experience,
 19 training, *or* education.” Fed. R. Evid. 702 (emphasis added). Even “minimal experience” is
 20 enough. *S.F. Baykeeper v. City of Sunnyvale*, 627 F. Supp. 3d 1085, 1098 (N.D. Cal. 2022).

21

22

23 ⁵ This subsection discusses how “Google employees repeatedly identified problems with Google’s
 24 disclosures.” Schneier Rep. § 11.7. *Brown* permitted analogous testimony, where Prof. Schneier
 25 “synthesiz[ed] information from a variety of different sources, including ... Google’s internal
 26 documents.” *Brown*, 2022 WL 17961497, at *12. Experts may “describ[e]” evidence, including
 27 “to lay a proper foundation for [their] opinions.” *Borges v. City of Eureka*, 2017 WL 363212, at
 28 *3 (N.D. Cal. Jan. 25, 2017); *see also Montera v. Premier Nutrition Corp.*, 2022 WL 1225031, at
 *5 (N.D. Cal. Apr. 26, 2022) (Seeborg, C.J.) (permitting testimony where expert “synthesize[d]
 Defendant’s internal documents”); *Linde v. Arab Bank, PLC*, 922 F. Supp. 2d 316, 332 (E.D.N.Y.
 2013) (expert may “synthesize[]” evidence to “pull[] together common themes in reaching his
 conclusions”; “challenges ... are more appropriately raised on cross-examination”).

1 In any event, Prof. Schneier is highly qualified to opine on dark patterns. He has written
 2 about dark patterns in his academic work and taught about them in courses at the Harvard Kennedy
 3 School. As he explained at deposition, dark patterns “is an area I have studied, I have written about,
 4 [and] I have taught.” Dkt. 474-3 at 50:14–19. Google faults him for not writing a book
 5 “exclusively” about dark patterns, while *ignoring* his 2023 book, *A Hacker’s Mind*, which
 6 addresses dark patterns. Schneier Rep. ¶ 14. It is irrelevant that the book also discusses other
 7 topics. Prof. Schneier has also “stud[ied] user behavior and human factors related to many different
 8 aspects of security and privacy” and addressed these issues in his 2015 book, *Data and Goliath*,
 9 which “discusses people’s relationship with privacy, and their behaviors regarding privacy, in
 10 detail.” *Id.* Google also ignores the ten other books he wrote about “computer security, general
 11 security technology, trust, surveillance, and privacy.” *Id.*

12 The two cases that Google cites support Plaintiffs’ position. *Karpilovsky* teaches that an
 13 expert can be qualified based on “experience” regardless of whether “he conducted … empirical
 14 testing.” *Karpilovsky v. All Web Leads, Inc.*, 2018 WL 3108884, at *4 (N.D. Ill. June 25, 2018).
 15 And in *Berman*, the expert was qualified to opine on deceptive webpages due in part to his “daily
 16 work” as the “Chief Technology Officer” for a web consulting company. *Berman v. Freedom Fin.*
 17 *Network, LLC*, 400 F. Supp. 3d 964, 972 (N.D. Cal. 2019). That work resembles Prof. Schneier’s
 18 work as the Chief Technology Officer for Inrupt Inc., an enterprise software company that delivers
 19 web technology solutions focused on user privacy. Schneier Rep. ¶ 9. Regardless, “the sufficiency
 20 of [Prof. Schneier’s] training and experience … bears more on the weight of his opinion than its
 21 admissibility.” *City of Sunnyvale*, 627 F. Supp. 3d at 1098.

22 **2. Dark patterns opinions do not depend on “intent.”**

23 Prof. Schneier’s dark patterns opinions do not “inherently involve[] an assessment of
 24 Google’s state of mind or motivation.” Mot. 13. As noted, Prof. Schneier has disclaimed any
 25 opinion about Google’s intent or motivation. Dkt. 474-3 at 71:1-3; *supra* § IV.B. He will not testify
 26 that Google intends to deceive users, through dark patterns or otherwise. Instead, he will describe
 27 how Google’s (s)WAA disclosures “exemplif[y]” various dark patterns, meaning that they include
 28 features consistent with them. Schneier Rep. § 11.

1 True, dark patterns will be relevant to the jury’s determination of intent.⁶ But experts can
 2 opine on topics *relevant to* intent; they just can’t opine on intent itself. For example, the Ninth
 3 Circuit held that although an expert may not opine that the defendants “actually acted in bad faith,”
 4 he could testify that they “failed to comport with industry standards,” and the jury could rely on
 5 that testimony to decide whether defendants acted in bad faith. *Hangarter*, 373 F.3d at 1016.

6 Even Google’s cases illustrate that principle. In *Twitter*, the expert could not opine on “why
 7 Twitter executives did or did not sell Twitter stock” but could testify about “behavior that may be
 8 indicative of informed trading.” *In re Twitter, Inc. Sec. Litig.*, 2020 WL 9073168, at *6 (N.D. Cal.
 9 Apr. 20, 2020). Similarly, in *Lithium*, the expert could not opine that the defendants intended to
 10 collude but could opine on “features of defendants’ contacts that are indicative of collusion.” *In re
 11 Lithium Ion Batteries Antitrust Litig.*, 2017 WL 1391491, at *9 (N.D. Cal. Apr. 12, 2017).

12 As another example, in *Smilovits*, an expert was permitted to testify about “hallmarks” of
 13 a valid 10b5-1 plan and whether the defendants’ plans “contained few or none of these hallmarks”
 14 because that testimony would help the jury understand “trading behaviors that may be suspicious.”
 15 *Smilovits v. First Solar, Inc.*, 2019 WL 7282026, at *2–3 (D. Ariz. Dec. 27, 2019). Like the expert
 16 in *Smilovits*, Prof. Schneier opines on the “hallmarks” of a topic with which the jury will be
 17 unfamiliar—dark patterns. And he appropriately refrains from opining that Google intentionally
 18 designed the disclosures with dark patterns in mind. *See also SEC v. Daifotis*, 2012 WL 2051193,
 19 at *3 (N.D. Cal. June 7, 2012) (permitting expert testimony “regarding the industry practice . . .
 20 for [] mutual funds’ communications with the public” as “relevant to . . . scienter”).

21 Google claims that Prof. Schneier made it “abundantly clear in his deposition” that he will
 22 opine on intent. Mot. 12. Wrong. In the testimony that Google excerpts for its motion, Prof.
 23 Schneier simply stood by the way he described dark patterns in his report—i.e., that dark patterns

24
 25 ⁶ Google confusingly suggests that “intent” is both an “ultimate issue of fact” and a “legal
 26 conclusion.” Mot. 10-11. Schneier has no opinion on intent. Regardless, intent is a factual question,
 27 and an opinion “is not objectionable because it embraces an ultimate issue to be decided by the
 28 trier of fact.” *Hangarter*, 373 F.3d at 1016. Relatedly, Google wrongly claims that intent is
 “dispositive to each claim.” Mot. 12. For example, there is no “intent” element for the CDAFA.
 Cal. Penal Code § 502(c)(2). Finally, *United States v. Tamman*, 782 F.3d 543, 552 (9th Cir. 2015)
 is far afield. *Id.* (expert may not opine that a criminal defendant “did not break the law”).

1 are “subversive user-design tricks intended to manipulate users into doing things they wouldn’t
 2 normally choose to do.” Schneier Rep. ¶ 161; *see also* Mot. 12 (quoting testimony that he “like[s]
 3 his words better” and affirmed what he wrote in his report); Dkt. 474-3 at 88:10–89:17.

4 Prof. Schneier refused to concede that his dark patterns opinions require him to opine on
 5 Google’s intent, despite Google’s best efforts to elicit that admission:

6 **Q.** You opine in various instances that Google intentionally
 7 designed its disclosures and interface to deceive users, correct?

8 **A.** Do I? I’d like to see that. ...

9 **Q.** Without looking at your report, as you sit here today, do you have
 10 an opinion about whether Google intended to deceive users?

11 **A.** You know, it’s not an opinion I would put in a deposition under
 12 oath.

13 Ex. 3 at 201:21–202:12. Google’s motion tellingly omits that testimony.

14 **3. Prof. Schneier’s dark patterns opinions are reliable.**

15 Dark patterns are not some “fuzz[y]” concept lacking “rigor.” Mot. 17. “The study of dark
 16 patterns is well accepted,” and “[t]here is extensive scholarship on dark patterns and how they can
 17 be used to modify the user’s perception of choice architecture.” *Arizona Order* at 3; *see also*
 18 Schneier Rep. ¶¶ 160–77 (discussing publications and studies that have assessed and categorized
 19 dark patterns). This scholarship includes a book authored by Prof. Schneier, *A Hacker’s Mind*. *Id.*
 20 ¶ 14. “Google has made no showing that a substantial part of the scientific community disfavors
 21 the principle of dark patterns.” *Arizona Order* at 4. Even Google’s expert, Dr. Donna Hoffman,
 22 acknowledges the substantial scholarship addressing the dark patterns. *E.g.*, Dkt. 470-2 (Hoffman
 23 Supp.) ¶ 11 (summarizing work by “behavioral economists” to address dark patterns). While she
 24 claims to be skeptical of this scholarship, she too has applied dark patterns, including in this tweet:

25 [← Tweet](#)

26  **Donna Hoffman**
 27 @prethoff

28 This should not be legal. It's certainly unethical.
 29 #darkpatterns [twitter.com/kurtinc/status...](https://twitter.com/kurtinc/status/12974563705086)
 30 This Tweet was deleted by the Tweet author. Learn more

31 11:20 PM · Aug 6, 2020 · Twitter for iPad

32 2 Retweets 1 Quote Tweet 20 Likes



1 Google employees sometimes grapple with dark patterns, particularly as they evaluate
 2 Google's disclosures. [REDACTED]
 3 [REDACTED]
 4 [REDACTED]
 5 [REDACTED]
 6 [REDACTED] Ex. 5 at -27; *see also* Ex. 6 [REDACTED]

7 [REDACTED] *see also* Arizona Order at 3
 8 (observing that "Google's own engineers use the concept of dark patterns as an analytical tool").

9 The concept of dark patterns is also enshrined in California law. Any consent obtained by
 10 dark patterns is invalid. *See* Cal. Civ. Code § 1798.140(h) (providing that an "agreement obtained
 11 through use of dark patterns does not constitute consent"); *id.* § 1798.140(l) (defining "dark
 12 pattern" to mean "a user interface designed or manipulated with the substantial effect of subverting
 13 or impairing user autonomy, decisionmaking, or choice, as further defined by regulation").
 14 Google's motion ignores all of these authorities defining and applying dark patterns.

15 Instead of grappling with this material, Google distorts Prof. Schneier's opinions, claiming
 16 they boil down to "I know it when I see it" testimony. Mot. 17. In fact, Prof. Schneier surveyed
 17 the relevant literature and then applied three widely accepted taxonomies of dark patterns to
 18 Google's (s)WAA disclosures: one taxonomy developed by Purdue University professor Colin
 19 Gray, another developed by the FTC, and another developed by the European Union. Schneier
 20 Rep. § 11. Prof. Schneier walked through the (s)WAA disclosures, including the Activity Controls
 21 page, the WAA Help Page, and Google's Privacy Policy, and he described how these disclosures
 22 exemplify dark patterns under these three taxonomies. Like the expert in the *Arizona* case, Prof.
 23 Schneier "looked at many aspects of Google's technology and disclosures," and "he carefully tied
 24 back many of Google's systems to specific indicia of 'dark patterns.'" *Arizona* Order at 6.

25 Google's rebuttal expert in this case (Dr. Hoffman) did the same thing too, though she
 26 reached the opposite conclusion—which presents a classic battle of the experts:

27

28

Q. You took the definitions Mr. Schneier provided of “dark patterns” and then you came to the conclusion that Google’s disclosures are not dark patterns under those definitions, correct?

A. Yes.

Dkt. 470-5 (Hoffman Tr.) at 302:1-7.

She also clarified that “I never said that [dark patterns] could not be a tool for evaluating deceptive design.” *Id.* at 148:20–25. Rather, her “criticisms are quite specific” and “refer to the lack of consensus in the field over the definition.” *Id.* at 148:25–149:5.

Google’s motion raises the same gripe, arguing that exclusion is warranted because there are “different definitions” of dark patterns. Mot. 17. “The fact that there are various definitions for ‘dark patterns’ does not necessarily mean, however, that a discussion of such patterns could not help the trier of fact.” *Arizona Order* at 3. “[C]onsensus is not a *Daubert* requirement.” *Id.* at 4. Instead, an expert may satisfy *Daubert* by “explaining precisely how they went about reaching their conclusions and point to some objective source—a learned treatise, the policy statement of a professional association, a published article in a reputable scientific journal or the like.” *Daubert v. Merrell Dow Pharms., Inc.*, 43 F.3d 1311, 1319 (9th Cir. 1995). A “lack of scientific consensus ... does not necessarily render expert testimony unreliable.” *SEC v. Life Partners Holdings, Inc.*, 854 F.3d 765, 776 (5th Cir. 2017); *see also United States v. Maxwell*, 2021 WL 5283951, at *2 (S.D.N.Y. Nov. 11, 2021) (rejecting argument that exclusion is warranted insofar as “experts disagree on the kinds of behaviors that define grooming,” reasoning “it is not the Court’s role to resolve the dispute through exclusion of one of the expert’s opinions”).

Google’s arguments about “test[ing],” “measure[ment],” and “method” are also misplaced. Mot. 16–17. When “testimony [is] based on some ‘other specialized knowledge,’ Rule 702 generally is construed liberally.” *Hankey*, 203 F.3d 1160 at 1168. This “liberal” construction applies to testimony that “defendants deviated from industry standards,” *Hangarter*, 373 F.3d at 1017, which is analogous to Prof. Schneier’s analysis of Google’s disclosures for dark patterns. In such cases, “reliability depends heavily on the knowledge and experience of the expert, rather than the methodology or theory behind it.” *Id.*; see *In re Xyrem*, 2024 WL 4023562, at *1 (“[E]xpert opinion … is reliable if it has a basis in the knowledge and experience of the relevant discipline.”)).

1 Even Google’s cases undermine the motion’s grumbling about “testing,” “measurement,”
 2 and “method.” Mot. 16–17. “[A]ssessing the reliability of expert testimony based on specialized
 3 knowledge, unlike scientific or technical expert testimony, is not contingent upon a particular
 4 methodology or technical framework.” *Siring v. Or. State Bd. of Higher Educ.*, 927 F. Supp. 2d
 5 1069, 1075 (D. Or. 2013) (citing *Hangarter*, 373 F.3d at 1017–18 & n.14); *In re Twitter*, 2020 WL
 6 9073168, at *3 (“The reliability of opinions that are based on the expert’s knowledge and
 7 experience … depends heavily on the knowledge and experience of the expert, rather than the
 8 methodology or theory behind it.”). To be sure, district courts “may” “apply a testability factor” in
 9 some cases, where appropriate, to determine whether another expert could “replicate the result.”
 10 *Sonneveldt v. Mazda Motor of Am., Inc.*, 2024 WL 5242611, at *1 (9th Cir. Dec. 30, 2024)
 11 (emphasis added). But the key word is “may.” *Id.* “[T]he test of reliability is flexible,” and the
 12 *Daubert* criteria are “meant to be helpful, not definitive.” *City of Pomona*, 750 F.3d at 1044. “[T]he
 13 trial court has discretion to decide how to test an expert’s reliability as well as whether the
 14 testimony is reliable, based on the particular circumstances of the particular case.” *Id.* For dark
 15 pattern opinions, “the relevant reliability concerns may focus upon personal knowledge or
 16 experience,” *Kumho Tire Co.*, 526 U.S. at 150, which he clearly possesses, *see supra* § IV.E.1.
 17 Google’s other cases are far afield because they addressed scientific and medical testimony.⁷

18 In any event, Prof. Schneier’s conclusions can be “tested,” and they will be “challenged.”
 19 Mot. 15–16. As explained above, Google’s expert will testify that she “took the definitions Mr.
 20 Schneier provided of ‘dark patterns’ and then [she] came to the conclusion that Google’s
 21 disclosures are not dark patterns under those definitions.” Dkt. 470-5 at 302:1–7. The jury will
 22 decide who is right. Exclusion is both unwarranted and unnecessary.

23 **V. CONCLUSION**

24 For these reasons, the Court should deny Google’s motion to strike in its entirety.

25 ⁷ *Gen. Elec. Co. v. Joiner*, 522 U.S. 136, 146 (1997) (testimony about whether lung cancer was
 26 caused by PCB exposure); *In re Zantac Prods. Liab. Litig.*, 644 F. Supp. 3d 1075, 1099 (S.D. Fla.
 27 2022) (testimony about whether a particular drug causes cancer); *Rovid v. Graco Children’s Prods. Inc.*, 2018 WL 5906075, at *5 (N.D. Cal. Nov. 9, 2018) (testimony concerning a “breathing model
 28 to simulate the respiratory volume and frequency typical of an infant”); *Tavilla v. Cephalon Inc.*, 2012 WL 1190828, at *5 (D. Ariz. Apr. 10, 2012) (testimony from treating physician).

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